

NOTES AND NEWS.

DR. LUCIEN M. UNDERWOOD will spend the summer in rummaging California for Hepaticæ.

DR. MAXWELL T. MASTERS has been elected a corresponding member of the Institute of France in place of Dr. Asa Gray.

DR. JOSEPH SCHENCK, in *American* Druggist* (June), publishes some "pharmacognostical notes," with illustrations, chiefly upon *Mentha*.

MISS HENRIETTA E. HOOKER, of Mt. Holyoke Seminary, sailed for Europe on the 23d of June, to be absent for six months of study in German laboratories.

IN *Garden and Forest* (July 18) Mr. Watson figures and describes *Amelanchier oligocarpa* Roem. as worthy of specific rank. It is the *A. Canadensis* var. *oligocarpa* of the Manual.

A SUMMER SCHOOL of science, specially for teachers, opened at the University of Wisconsin July 10, and closes August 10. It includes elementary and advanced courses in botany, conducted by Prof. Barnes and Mr. H. L. Russell.

"CONCERNING the potato tuber" is the subject of the last Bulletin of the Indiana Agricultural Experiment Station by the botanist, Dr. J. C. Arthur. Although mainly to instruct the cultivator, it has points of interest for botanists.

IN THE *Journal de Botanique* (July 1) there is a biographical notice of the late Jules-Émile Planchon, by M. Louis Morot, with a full bibliography. The same number also contains a very interesting picture of "*Le Jardin des Plantes*" in 1636.

THE COUNCIL of the Royal Microscopical Society of London has determined to abandon the term micro-millimeter for the $\frac{1}{1000}$ of a millimeter, and use in the Journal and Proceedings the term *micron*. It would be wise for all to follow this usage.

DR. J. V. HABERER has prepared a list of the spring plants in the vicinity of Utica, N. Y., which is published by the Asa Gray Botanical Club of that city, of which he is president. A radius of seven miles is the limit, and the twenty-page pamphlet shows a rich spring flora.

WAKKER's observations upon a large number of seeds lead him to believe that aleurone grains are not always protoplasmic, but often vacuoles filled with soluble albuminoids. In this case the crystals and crystalloids found within the "grain" would be derived from the cell-wall.

THE GENUS *Tillandsia* is completed by Dr. Baker in *Journal of Botany* (June), with 241 species, 64 of which are published for the first time. In two cases the author gave the same name to two different species, overlooking the fact that it had already been bestowed. This gives the editor a chance in a foot-note to call one of these *T. Bakeriana*.

THE FUNCTION of the tannin group is comparatively obscure. Tannins are not transferred from the leaves before their fall, and, *a priori*, would seem to be products of no further use to the plant. Although glucosides, rich in carbon and oxygen and often associated with glucose, they are not used in the processes of growth, though perhaps they take part in the formation of resins. Prof. W. Hillhouse has some interesting papers on this subject in four recent numbers of the *Midland Naturalist* (Nov., 1887-Feb., 1888).

PROF. GRAF ZU SOLMS-LAUBACH, of the Botanical Institute at Tübingen, became associated with Dr. Wortmann in the editing of the *Botanische Zeitung* on the 1st of July. Count Solms will be a worthy successor to the lamented DeBary. Original contributions are to be sent to him, while books and all papers for review are to be addressed to Dr. J. Wortmann at Strassburg.

ROBERT DOUGLAS, in a note on the longevity of coniferous tree seeds (*Garden and Forest*, July 18), says he finds that these seeds preserve their vitality longer in dry climates, like Colorado, than is generally supposed. Seeds of *Pinus ponderosa* were found to germinate as freely the fifth year as the first, while those of *Picea pungens* and *Pseudotsuga Douglasii* germinated readily the third year.

THE COMPOSITÆ have heretofore borne a good reputation, and their harmlessness is impeached for the first time by MM. Heckel and Schlagdenhauffen, who report (*Comptes Rendus*, May 14, 1888, p. 1446) the discovery of a glucoside in *Vernonia nigritiana* Oliver et Hirn, which acts upon the heart in the same manner as digitaline, arresting it in systole. This glucoside they call *vernonine*, and state its composition as $C_{10}H_{24}O_7$. It is twenty-four times less powerful than digitaline.

JOST has recently worked out the development of the Mistletoe (*Viscum album*), of which, though often studied, reliable data regarding the origin of the embryo-sac and the development of the anther were lacking. The degeneration of the reproductive organs through parasitism is very interesting. Herr Jost's summary is as follows: "*Viscum album* has its reproductive organs very much reduced; the ovules have degenerated to simple macrospores (embryo-sacs) which arise at the apices of the floral axes; the anthers (microsporangia) are placed not upon specialized staminal leaves, but upon the perianth, in which structure they resemble more those of many vascular cryptogams than those of most angiosperms." The details of this interesting paper see *Bot. Zeit.* nn. 23, 24, 1888.

ULOTA PHYLLANTHA, heretofore only known from sterile specimens, has been found fruiting by Mr. Thomas Howell in Oregon. The fruit is described by MM. Renauld and Cardot in the *Revue Bryologique*, 1888, no. 3, p. 36. At a meeting of the Torrey Botanical Club on May 8 (reported in the *Bulletin* for June), Mrs. E. G. Britton exhibited slides and drawings of fruit and flower from specimens of the same collection. Upon this, together with a letter to M. Cardot, dated March — ? announcing the discovery, Mrs. Britton claims priority. It is a matter of small consequence, but we can hardly believe that two such distinguished bryologists would have described the fruit without any reference to Mrs. Britton's communication had it really called their attention to the matter for the first time.

IN THE *Journal of Botany* for July a report is given of an address on root pressure before the Linnæan Society of London by Mr. C. B. Clarke. Mr. Clarke read the commonly accepted doctrine of root pressure as laid down by Sachs, and proceeded to deny the existence of any such force. He would consider the whole *mechanical* fluid action in plants in accordance with the laws of capillarity, and believes that the fluid pressure in every plant cell is nearly zero. To avoid the difficulty that water could not rise to such heights in capillary tubes, he says that water raised a quarter of an inch in one tube may laterally (by pressure or otherwise) pass into another and there rise by capillary action another quarter-inch, and so on nearly *ad infinitum*. We hardly think that this view will be favorably received by plant physiologists.

AN INTERNATIONAL American Congress will be held in Berlin, in October next, to discuss historical, geographical, ethnographical, linguistic and similar subjects relating to the American continent. Of the thirty-seven topics arranged in the preliminary programme, only one is botanical—the economic plants of the ancient Peruvians, introduced by Dr. Wittmack, of Berlin.

THE NEW marine biological laboratory established at Wood's Hall, Mass., deserves success. It opened its first season July 10, under the directorship of Dr. C. O. Whitman, and will close September 22. It is open for both investigators and students. The situation is all that could be desired, both as a delightful place for the summer and as affording abundant and varied material. It will be remembered that Dr. Farlow had his summer class at this place on account of its rich display of algæ.

DR. H. RODEWALD has attempted to investigate¹, by means of chambers constructed for the purpose, the amount of heat given off by plants in the process of respiration, comparing this with the quantity of CO₂ eliminated. The objects experimented on were ripening apples and potatoes. He finds that always by far the larger part of the energy set free by respiration is given off in the form of heat. Supposing the whole of the CO₂ to result from the combustion of starch, he found the actual quantity of heat developed to be 92.2 per cent. of that which would be due theoretically to the consumption of the corresponding amount of starch. The contrivances by which the vitiation of the results through errors was prevented are described in detail. The loss of heat from transpiration could be estimated from the loss of weight, from which the quantity of carbon consumed in respiration must be deducted. The specific heat of the body experimented on was determined by a calorimeter to be about 0.924. The quantity of CO₂ evolved was estimated at the same time in all the experiments.—*Jour. Roy. Mic. Soc.*

THE CENTENARY of the Linnean Society of London, May 24, was a very interesting occasion. The president, Mr. W. Carruthers, delivered his annual address, in which he referred to the losses sustained by the society during the past year, mentioning prominently DeBary and Gray. In accordance with the spirit of the occasion, he spoke of the work of Linnæus, the transference of his collections to England, and the development of the Linnean Society. Then a eulogium upon Linnæus was read, having been prepared by Prof. Thöre Fries, the present professor of botany at Upsala. After an account of the marvelous work of Linnæus, he closed as follows: "The precious gift of Sir James Edward Smith (the Linnean collections) was indeed a noble seed, since grown up into a strong plant, which has borne flowers and fruits from year to year in abundance. Its vitality is a guarantee that it will thrive and flourish so long as the *Linnæa borealis*, ever green, spreads its fragrance over young and old, high and low, rich and poor, in the mighty forests of the north." Sir Joseph Hooker pronounced the eulogium on Robert Brown, recognized as the greatest botanist of his age. He said that Brown's collection of about 4,000 species of plants belonging to all orders, and three-fourths of them new to science, in nine years, was a feat unexampled in the history of botanical science. Professor Flower gave the eulogy on Charles Darwin, and Mr. Thiselton Dyer upon George Bentham. The Linnean gold medal was presented to Professor Owen and Sir Joseph Hooker.

¹ Pringheim's Jahrb. f. Wiss. Bot. xviii (1887), pp. 263-345.